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GABAA Receptor, α1-Subunit Antibody

Affinity purified rabbit polyclonal antibody
Catalog # AN1035

Specification

GABAA Receptor, α1-Subunit Antibody - Product Information

Application	**WB**
Primary Accession	P62813
Reactivity	**Mouse, Rat**
Predicted	**Human, Mouse, Monkey, Bovine**
Host	**Rabbit**
Clonality	**polyclonal**
Calculated MW	**51 KDa**

GABAA Receptor, α1-Subunit Antibody - Additional Information

Gene ID	**29705**
Gene Name	**GABRA1**

Other Names
Gamma-aminobutyric acid receptor subunit alpha-1, GABA(A) receptor subunit alpha-1, Gabra1, Gabra-1

Target/Specificity
Fusion protein from the cytoplasmic loop of the alpha 1 subunit.

Dilution
WB~~ 1:1000

Format
Prepared from rabbit serum by affinity purification using a column to which the fusion protein immunogen was coupled.

Antibody Specificity
Specific for the ~51k α1-subunit of the GABAA receptor in Western blots. Labeling is absent in α1-subunit knockout animals.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
GABAA Receptor, α1-Subunit Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Shipping
Blue Ice

GABAA Receptor, α1-Subunit Antibody - Protocols

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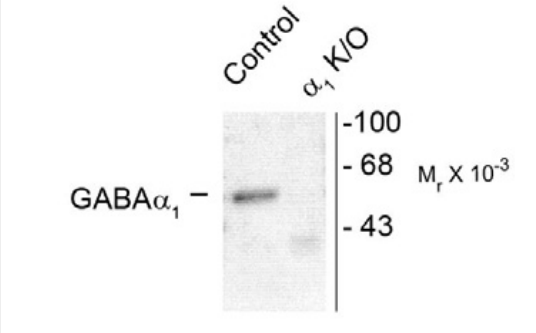
Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

GABAA Receptor, α1-Subunit Antibody - Images



Western blot of mouse forebrain lysates from wild type (Control) and α1-knockout (α1-K/O) animals showing specific immunolabeling of the ~51k α1-subunit of the GABAA-R. The labeling was absent from a lysate prepared from α1-knockout animals.

GABAA Receptor, α1-Subunit Antibody - Background

Gamma-aminobutyric acid (GABA) is the primary inhibitory neurotransmitter in the central nervous system, causing a hyperpolarization of the membrane through the opening of a Cl− channel associated with the GABAA receptor (GABAA-R) subtype. GABAA-Rs are important therapeutic targets for a range of sedative, anxiolytic, and hypnotic agents and are implicated in several diseases including epilepsy, anxiety, depression, and sub-stance abuse. The GABAA-R is a multimeric subunit complex. To date six αs, four βs and four γs, plus alternative splicing variants of some of these subunits, have been identified (Olsen and Tobin, 1990; Whiting et al., 1999; Ogris et al., 2004). Injection in oocytes or mammalian cell lines of cRNA coding for α- and β-subunits results in the expression of functional GABAA-Rs sensitive to GABA. However, coexpression of a γ-subunit is required for benzodiazepine modulation. The various effects of the benzodiazepines in brain may also be mediated via different α-subunits of the receptor (McKernan et al., 2000; Mehta and Ticku, 1998; Ogris et al., 2004; Pöltl et al., 2003).

GABAA Receptor, α1-Subunit Antibody - References

McKernan RM, et al. (2000) Sedative but not anxiolytic properties of benzodiazepines are mediated by the GABAA receptor α1-subtype. Nature Neurosci 3:587-592.
Mehta AK, Ticku MK (1998) Prevalence of the GABAA receptor assemblies containing α1-subunit in the rat cerebellum and cerebral cortex as determined by immunoprecipitation: Lack of modulation by chronic ethanol administration. Mol Brain Res 67:194-199.
Ogris W, Pöltl A, Hauer B, Ernst M, Oberto A, Wulff P, Höger H, Wisden W, Sieghart W (2004) Affinity of various benzodiazepine site ligands in mice with a point mutation in the GABAA receptor γ2-subunit. Biochem Pharmacol 68:1621-1629.
Olsen RW, Tobin AJ (1990) Molecular biology of GABAA receptors. FASEB 4:1469-1480.
Pöltl A, Hauer B, Fuchs K, Tretter V, Sieghart W (2003) Subunit composition and quantitative

importance of GABAA receptor subtypes in the cerebellum of mouse and rat. J Neurochem 87:1444-1455.
Whiting PJ, Bonnert TP, McKernan RM, Farrar S, Le Bourdellès B, Heavens RP, Smith DW, Hewson L, Rigby MR, Sirinathsinghji DJS, Thompson SA, Wafford KA (1999) Molecular and functional diversity of the expanding GABAA receptor gene family. Ann NY Acad Sci 868:645-653
.Mridula Rewal, Rachel Jurd, T. Michael Gill, Dao-Yao He, Dorit Ron, and Patricia H. Janak (2009) 4-Containing GABAA Receptors in the Nucleus Accumbens Mediate Moderate Intake of Alcohol J. Neurosci., 29: 543 - 549